

REMARKS

Drawings. The Examiner finds fault (Office Action paragraph 1) with the drawings.

A first layer 80 providing galvanic isolation has been added to Figure 5.

The Examiner expresses the view that the isolator/dielectric layer of claim 9 is not shown in the drawing. This view is in error. The said layer is clearly shown in Figure 5 as filed as layer 55 between layers 51 and 52. For clarity this has been renumbered as layer 55A.

The Examiner expresses the view that the isolator/dielectric layer of claim 10 is not shown in the drawing. This view is in error. The said layer is clearly shown in Figure 5 as filed as layer 55 between layers 52 and 53. For clarity this has been renumbered as layer 55B.

Captions saying “prior art” have been added, as as a banner saying that the sheet is a substitute sheet.

Specification. The Examiner finds fault (Office Action paragraph 3) with claims 8-10.

The Examiner expresses the view that the isolator/dielectric layer of claim 9 is not disclosed in the specification. This view is in error. The said layer is clearly disclosed in the specification as filed at paragraph 26, described as lying between layers 51 and 52.

The Examiner expresses the view that the isolator/dielectric layer of claim 10 is not disclosed in the specification. This view is in error. The said layer is clearly disclosed in the specification as filed at paragraph 26, described as lying between layers 52 and 53.

Claim 1. The Examiner expresses the view that claim 1 is supposedly unpatentable in view of a two-way combination of US patent number 4475235 to Graham and US patent number 5953199 to Owens.

Claim 1, with reference letters interposed for convenient reference, is:

A capacitive touch pad comprising first and second layers,

[a] the first layer comprising a non-conductive cover providing galvanic isolation of the second layer,

[b] the second layer comprising a plurality of row-shaped row-sensing electrodes and a row-by-column array of column-sensing electrodes,

[c] each column of column-sensing electrodes interconnected by conductive traces,

[d] the row-sensing electrodes and column-sensing electrodes defining interleaved combs therebetween,

[e] each comb comprising at least two fingers.

Owens is cited simply for the proposition that one might put a non-conductive layer (here, limitation [a]) as the top layer for a touch pad.

Graham is cited as supposedly teaching all of limitations [b], [c], [d], and [e].

It is respectfully submitted that in fact Graham lacks any such teaching.

Graham tries to *approximate* positions in a Cartesian coordinate system (e.g. X and Y coordinates) indirectly from four proximity measurements. The four proximity values are used to approximate X by:

$$(V_3 + V_4 - V_2 - V_1)/((V_1 + V_2 + V_3 + V_4))$$

(column 7, line 18) and are used to approximate Y by:

$$(V_2 + V_3 - V_1 - V_4)/((V_1 + V_2 + V_3 + V_4))$$

(column 7, line 14).

Nowhere in Graham are there “row-sensing electrodes”. The Examiner suggests that lines 258 and 262 in Fig. 10 are “row-sensing” electrodes, but this is not so. Lines 258 and 262 are not electrodes at all, according to Graham, but are “common lines”. They in turn connect respectively to “lines” 256 and 260 which might, for sake of discussion, be called “electrodes”. In any event, the lines in area A1 of

Fig. 10 do not sense rows, but instead are taught by Graham to sense the extent to which an input is proximal to area A1 in Fig. 10. Other lines sense the extent to which an input is proximal to area A2, for example. The lines in area A2 are not taught to be connected to the lines in area A1, for example.

Likewise the Examiner suggests that lines 260 in Fig. 10 are “column-sensing” electrodes, but this is not so. Lines 260 in area A1 of Fig. 10 do not sense columns, but instead are taught by Graham to sense the extent to which an input is proximal to area A1 in Fig. 10. Other lines sense the extent to which an input is proximal to area A3, for example. The lines in area A3 are not taught to be connected to the lines in area A1, for example.

There are thus no “column-sensing electrodes” anywhere in Graham, and there are no “row-sensing electrodes” anywhere in Graham.

Limitation [c] also deserves comment. The Examiner has not indicated where, in Graham, there is any teaching to provide a “conductive trace” interconnecting the column-sensing electrodes in a particular column.

Claims 11 and 12 have been added to provide limitations as to the numbers of rows and columns. The figures show as many as ten rows and as many as thirteen columns, thus these claims do not add new matter.

Respectfully submitted,

/s/

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